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SE 491 WEEKLY REPORT 4
10/03/2024 - 10/10/2024

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Group number: sdmay25-30

Project title: *Explainable AI for source code applications*

Client &/Advisor: *Arushi Sharma*

Team Members:
Manjul Balayar
Kellan Bouwman
Sam Frost
Akhilesh Nevatia
Ethan Rogers

Weekly Rotation
Manjul Balayar
Kellan Bouwman
Sam Frost
Ethan Rogers
Akhilesh Nevatia

Weekly Summary

Following our progress last week, which brought us closer to completing the pipeline implementation, this week focused on critically re-scoping the project requirements. We also discussed the approach for implementing the current refactoring pipeline. Moving forward, we will adopt an Agile methodology for the remainder of the project, gradually gaining more autonomy over design and implementation decisions as the project progresses.

o **Past week accomplishments**

Manjul Balayar:
- Tested if alignment script functions correctly in NeuroXCode
- Went through input and label data

Kellan Bouwman:
- Reshaped focused on refactoring
- Expanded focus on metrics and alignment
- Working on optimizing and converting .sh to .py files

Sam Frost:
- Unit tests for process_activations, utilities
- Fixed dependency issues in previous tests

Akhilesh Nevatia:
- Went through conditions we need to test for in the git repo
- Made sure the Clustering module integrates well into the package

Ethan Rogers:
- Went through code repo to better understand changes made by other members
- Explored Python library structure and best practices for production-like code

o **Pending issues**

Manjul Balayar: N/A
Kellan Bouwman: N/A
Sam Frost: N/A
Akhilesh Nevatia: N/A
Ethan Rogers: N/A

Individual Time Contributions

Name	Hours This Week	Total Hours
Manjul Balayar	6	31
Kellan Bouwman	6	38
Sam Frost	6	30
Akhilesh Nevatia	6	32
Ethan Rogers	6	31

- **Plans for the upcoming week**

    Manjul Balayar:
    - Making sure lexical, alignment, and other metrics are all able to work in new library fully

    Kellan Bouwman:
    - Add tests
    - Create examples / tests on collab
    - Create local examples / tests
    - Create pronto examples / tests

    Sam Frost:
    - Finish unit tests for remaining src files

    Akhilesh Nevatia:
    - Try testing out newly implemented Clustering with data on pronto / google colab
    - Help with testing out the project as a whole from extracting activations till the end to submit to our advisor this week

    Ethan Rogers:
    - Test added functionality related to multi-layer and multi-dataset functionality thoroughly to ensure compatibility with the finished pipeline.
    - Ensure that logging and saving of intermediate steps is performed in a scalable and efficient manner throughout operations.

Summary of weekly advisor meeting

As we progressed on our respective components, the highlight of this week was a meeting with our advisor and Prof. Fila to rescope our expectations and implementation plan, ensuring alignment with the objectives of a Design Project. The key takeaway is that we will 'shift' from a traditional senior design approach to an agile methodology. This shift involves a cycle of one week for planning and one week for implementation, repeating throughout the year. Refactoring, as outlined in the requirements document, along with testing, is expected to be completed by next week. Refactoring should be seen as an understating task and the foundation of our project, which we will further build on and add new features and designs through the project.